



Where ideas connect

Department of Environmental Quality
Division of Air Quality

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DAQE-IN0007015-03

September 26, 2003

Chester Goodson
Plant Manager
Holcim (US) Inc.
6055 East Croydon Road
Morgan, Utah 84050

Dear Mr. Goodson:

Re: Intent to Approve: Modification of Devil's Slide Plant Approval Order DAQE#AN0007014-03
for Alternative Fuels, Morgan County – CDS A, ATT, NSPS, PSD, HAPs, Title V Major
Project Code: N0007-015

The attached document is the Intent to Approve (ITA) for the above-referenced project. ITAs are subject to public review. Any comments received shall be considered before an Approval Order is issued.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Mr. John D. Jenks. He may be reached at (801) 536-4459.

Sincerely,

Rusty Ruby, Manager
New Source Review Section

RR:JJ:re

cc: Weber-Morgan Health Department

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

**INTENT TO APPROVE: MODIFICATION OF DEVIL'S
SLIDE PLANT APPROVAL ORDER DAQE #AN0007014-03
FOR ALTERNATIVE FUELS**

**Prepared By: John D. Jenks, Engineer
(801) 536-4459
Email: jjenks@utah.gov**

INTENT TO APPROVE NUMBER

DAQE-IN0007015-03

Date: September 26, 2003

**Holcim (US) Inc.
Source Contact
Kevin Ovard
(801) 829-6821**

**Richard W. Sprott
Executive Secretary
Utah Air Quality Board**

Abstract

Holcim (US) Inc. (Holcim) has submitted a Notice of Intent to use alternate fuels at their cement plant in Croydon, Utah, in Morgan County. Morgan County is an attainment area of the National Ambient Air Quality Standards (NAAQS) for all pollutants. National Emission Standards for Hazardous Air Pollutants (NESHAP) do not apply to this source. New Source Performance Standards (NSPS) and Maximum Available Control Technology (MACT) regulations apply to this source. Title V of the 1990 Clean Air Act applies to this source. There will be no change in emissions anticipated as a result of adding the new fuels. All existing control measures and equipment will continue to be used.

The Notice of Intent (NOI) for the above-referenced project has been evaluated and has been found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order (AO) by the Executive Secretary of the Utah Air Quality Board.

A 30-day public comment period will be held in accordance with UAC R307-401-4. A notice of intent to approve will be published in the Ogden Standard Examiner on October 2, 2003. During the public comment period the proposal and the evaluation of its impact on air quality will be available for both you and the public to review and comment. If anyone so requests a public hearing it will be held in accordance with UAC R307-401-4. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated.

Please review the proposed AO conditions during this period and make any comments you may have. The proposed conditions of the AO may be changed as a result of the comments received. Unless changed, the AO will be based upon the following conditions:

General Conditions:

1. This Approval Order (AO) applies to the following company:

Site Office

Holcim (US) Inc.
6055 E. Croydon Road
Morgan, Utah 84050

Phone Number: (801) 829-6821

Fax Number: (801) 829-2100

The equipment listed in this AO shall be operated at the following location:

PLANT LOCATION:

6055 E. Croydon Road, Morgan, Utah 84050 Universal Transverse Mercator (UTM)

Coordinate System: UTM Datum NAD27

4,545.8 kilometers Northing, 455.4 kilometers Easting, Zone 12

2. Definitions of terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code Rule 307 (UAC R307), and Series 40 of the Code of

Federal Regulations (40 CFR). These definitions take precedence, unless specifically defined otherwise herein.

3. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.
4. Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved in accordance with R307-401-1.
5. All records referenced in this AO or in applicable NSPS and/or NESHAP and/or MACT standards, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request. Records shall be kept for the following minimum periods:
 - A. Used oil consumption Three years
 - B. Emission inventories Five years from the due date of each emission statement or until the next inventory is due, whichever is longer.
 - C. All other records Two years
6. Holcim (US) Inc. shall conduct its operations of the Devil's Slide Cement Plant in accordance with the terms and conditions of this AO, which was written pursuant to Holcim (US) Inc.'s Notice of Intent submitted to the Division of Air Quality (DAQ) on August 20, 2003.
7. This AO shall replace the AO dated February 21, 2003 (DAQE-AN0007014-03).
8. The approved installations and facilities shall consist of the following equipment or equivalent*:
 - A. Five-stage suspension preheater kiln and "AS" precalciner using indirect coal firing
Control Method: Kiln Main Stack Baghouse 135,000 ACFM **
Control Method: Alkali By-Pass Baghouse 75,000 ACFM **
 - B. Clinker Cooler
Control Method: Cooler Baghouse 95,000 ACFM **
 - C. #1 Finish Mill
Control Method: #1 Separator Baghouse 48,000 ACFM **
Control Method: #1 Cement Mill Baghouse nuisance dust collector
 - D. #2 Finish Mill
Control Method: #2 Separator Baghouse 43,000 ACFM **
Control Method: #2 Cement Mill Baghouse 17,000 ACFM **

- E. #3 Finish Mill
Control Method: #3 Separator Cyclone/Baghouse 4,706 ACFM **
Control Method: #3 Cement Mill Baghouse 25,588 ACFM **
- F. Coal Mill
Control Method: Baghouse 28,000 ACFM **
- G. 62 additional baghouses of varying capacity for dust control. These include but are not limited to baghouses installed in the following areas:

Material Handling
Raw Material Grinding and Storage
Feeding
Cement and Clinker Storage (4 new silos)
- H. Various quarry drilling and blasting equipment
- I. Haul trucks and front-end loaders
- J. Various covered conveyors
- K. Various materials handling equipment including: hoppers, blowers, ramps, covered storage, and piping
- L. Two Diesel Powered Emergency Generators
- * Equivalency shall be determined by the Executive Secretary.
- ** Flow rates are listed for informational purposes only

Limitations and Tests Procedures

- 9. Emissions to the atmosphere at all times from the indicated emission point shall not exceed the following rates and concentrations:

Source: Kiln Main Stack Exhaust

<u>Pollutant</u>	<u>lb/hr</u>
PM ₁₀	14
SO ₂	104
CO.....	438
NO _x	1,817 Tons/rolling 12-month period

- 10. Stack testing to show compliance with the emission limitations stated in the above condition shall be performed as specified below:

A.	<u>Emissions Point</u>	<u>Pollutant</u>	<u>Testing Status</u>	<u>Test Frequency</u>
	Kiln Main Stack	PM ₁₀	*	@
		SO ₂	*	#
		NO _x	*	##
		CO.....	*	#

B. Testing Status (To be applied above)

- * The initial testing has already been performed.
- @ Test every five years. The Executive Secretary may require testing at any time.
- # Test every two years. The Executive Secretary may require testing at any time.
- ## Compliance for NO_x emissions shall be demonstrated through use of a continuous emissions monitoring system as outlined in Condition 24.

C. Notification

The Executive Secretary shall be notified at least 30 days prior to conducting any required emission testing. A source test protocol shall be submitted to DAQ when the testing notification is submitted to the Executive Secretary.

The source test protocol shall be approved by the Executive Secretary prior to performing the test(s). The source test protocol shall outline the proposed test methodologies, and stack to be tested. A pretest conference shall be held, if directed by the Executive Secretary.

D. Sample Location

The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the Executive Secretary. Access that meets the standards of the Occupational Safety and Health Administration (OSHA) or the Mine Safety and Health Administration (MSHA) shall be provided.

E. Volumetric Flow Rate

40 CFR 60, Appendix A, Method 2

F. PM₁₀

For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. The back half condensibles shall also be tested using the method specified by the Executive Secretary. All particulate captured shall be considered PM₁₀.

For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be tested using the method specified by the Executive Secretary. The portion of the front half of the catch considered PM_{10} shall be based on information in Appendix B of the fifth addition of the EPA document, AP-42, or other data acceptable to the Executive Secretary.

The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

G. Sulfur Dioxide (SO_2)

40 CFR 60, Appendix A, Method 6, 6A, 6B or 6C

H. Nitrogen Oxides (NO_x)

Continuous monitoring as outlined in Condition 24.

I. Carbon Monoxide (CO)

40 CFR 60, Appendix A, Method 10

J. Calculations

To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary, to give the results in the specified units of the emission limitation.

K. Existing Source Operation

For an existing source/emission point, the production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years

11. Visible emissions from the following emission points shall not exceed the following values:

A. All kiln exhaust gases - 20% opacity

B. All other point sources - 10% opacity

Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

12. The following production limit shall not be exceeded:

A. 799,100 tons of clinker per rolling 12-month period

Records of production shall be kept for all periods when the plant is in operation. Production shall be determined by maintenance of a supervisor log. Compliance with the annual limitation shall be determined on a rolling 12-month total. Based on the twentieth day of each month a new 12-month total shall be calculated using the previous 12 months of kiln production and shall be kept for all periods when the plant is in operation.

13. The emergency generator hours of operation for maintenance purposes shall not exceed 60 hours total per 12-month period. Compliance with the annual limitation shall be determined on a rolling 12-month total. Based on the twentieth day of each month a new 12-month total shall be calculated using the previous 12 months of engine hours and shall be kept for all periods when the plant is in operation. Engine hours of operation shall be determined by examination of maintenance records, which shall be kept on site.

Roads and Fugitive Dust

14. The facility shall abide by all applicable requirements of UAC R307- 205 for Fugitive Emission and Fugitive Dust sources. The provisions of R307-205 shall not apply to any sources for which limitations for fugitive dust or fugitive emissions are assigned pursuant to R307-401 or R307-305 nor shall they apply to agricultural or horticultural activities.
15. All unpaved roads and other unpaved operational areas that are used by mobile equipment shall be water sprayed and/or chemically treated to control fugitive dust. The application of water or chemical treatment shall be used. Treatment shall be of sufficient frequency and quantity to maintain the surface material in a damp/moist condition unless it is below freezing. The opacity shall not exceed 20% during all times the areas are in use. If chemical treatment is to be used, the plan must be approved by the Executive Secretary. Records of water and/or chemical treatment shall be kept for all periods when the plant is in operation. The records shall include the following items:
 - A. Date
 - B. Number of treatments made, dilution ratio, and quantity
 - C. Precipitation received, if any, and approximate amount
 - D. Time of day treatments were made
 - E. Records of temperature, if the temperature is below freezing.
16. Visible fugitive dust emissions from haul-road traffic and mobile equipment in operational areas shall not exceed 20% opacity. Visible emissions determinations for traffic sources shall use procedures similar to Method 9. The normal requirement for observations to be made at 15-second intervals over a six-minute period, however, shall not apply. Six points, distributed along the length of the haul road or in the operational area, shall be chosen by the Executive Secretary or the Executive Secretary's representative. An opacity reading shall be made at each point when a vehicle passes the selected points. Opacity readings shall be made ½ vehicle length or greater behind the vehicle and at approximately ½ the height of the vehicle or greater. The accumulated six readings shall be averaged for the compliance value.

17. A dust suppression system shall be installed at the following points to control fugitive emissions:

- A. Crusher dump pocket – water spray
- B. Conveyor transfer points – baghouse dust collectors

The system shall operate whenever dry conditions warrant or as determined necessary by the Executive Secretary.

Fuels

18. The owner/operator shall use only the following fuels in the kiln:

- A. Coal
- B. Diaper Derived Fuel (DDF)
- C. Tire Derived Fuel (TDF)
- D. Natural Gas
- E. Coke
- F. Fuel Oil
- G. Used Oil
- H. Synthetic Fuel
- I. Wood
- J. Coal Additives as defined in Condition 19

If any other fuel is to be used, an AO shall be required in accordance with R307-401, UAC.

19. The coal additives listed in Condition 18.J shall consist of alternative fuels approved by the Executive Secretary. Prior to burning any proposed coal additive, Holcim (US) Inc. shall obtain approval from the Executive Secretary. To obtain approval, Holcim (US) Inc. shall submit Material Safety Data Sheets (MSDS) or the results of suitable tests giving data similar to a Proximate and Ultimate analysis of the proposed coal additive.

Approval by the Executive Secretary shall consist of a letter approving the use of the proposed coal additive. Approval is not required to change from one previously approved coal additive to another previously approved coal additive.

The average quantity of coal additives burned shall not be greater than 15% of the total daily heat input of the kiln and precalciner. Holcim (US) Inc. may increase the average quantity of coal additives up to 25% of the total daily heat input of the kiln and precalciner upon approval by the Executive Secretary in accordance with the approval process described in this Condition 19.

20. The sulfur content of any coal or mixture of coals burned shall not exceed 1.0 pound of sulfur per million BTUs of heat input. The sulfur content of any fuel oil or diesel burned shall not exceed 0.85 pounds sulfur per million gross BTUs heat input. If any type of fuel that is to be used that has a higher sulfur content, an AO shall be required in accordance with R307-401, UAC.

Methods for determining sulfur content of coal and fuel oil shall be those methods of the American Society for Testing and Materials, UAC R307-203-1 (4)

- (a) For determining sulfur content in coal, ASTM Methods D3177-75 or D4239-85 are to be used.
- (b) For determining sulfur content in oil, ASTM Methods D2880-71 or D4294-89 are to be used.
- (c) For determining the gross calorific (or BTU) content of coal, ASTM Methods D2015-77 or D3286-85 are to be used.

21. The concentration/parameters of contaminants in any used oil fuel shall not exceed the following levels:

1)	Arsenic	5	ppm by weight
2)	Cadmium	2	ppm by weight
3)	Chromium.....	10	ppm by weight
4)	Lead.....	100	ppm by weight
5)	Total halogens	1,000	ppm by weight
6)	Sulfur	0.5	percent by weight

- A. The flash point of all used oil to be burned shall not be less than 100 °F.
- B. The owner/operator shall provide test certification for each load of used oil fuel received. Certification shall be either by their own testing or test reports from the used oil fuel marketer. Records of used oil fuel consumption and the test reports shall be kept for all periods when the plant is in operation.
- C. Used oil that does not exceed any of the listed contaminants content may be burned. The owner/operator shall record the quantities of oil burned on a daily basis.
- D. Any used oil fuel that contains more than 1000 ppm by weight of total halogens shall be considered a hazardous waste and shall not be burned in the kiln. The oil shall be tested for halogen content by ASTM Method D-808-81, EPA Method 8240 or Method 8260 before used oil fuel is transferred to the day tank and burned.
- E. Sources utilizing used oil as a fuel shall comply with the State Division of Solid and Hazardous Waste in accordance with R315-15, UAC.

Federal Limitations and Requirements

22. In addition to the requirements of this AO, all applicable provisions of 40 CFR 60, New Source Performance Standards (NSPS) Subpart A, 40 CFR 60.1 to 60.18, Subpart F, 40 CFR 60.60 to 60.66 (Standards of Performance for Portland Cement Plants), Subpart Y, 40 CFR 60.250 to 60.254 (Standards of Performance for Coal Preparation Plants, and Subpart OOO, 40 CFR 60.670 to 60.676 (Standards of Performance for Nonmetallic Mineral Processing Plants) apply to this installation. To be in compliance, this facility

must operate in accordance with the most current version of 40 CFR 60 applicable to this source.

23. In addition to the requirements of this AO, all applicable provisions of 40 CFR 63, National Emission Standards for Hazardous Air Pollutants for Source Categories Subpart A, 40 CFR 63.1 to 63.15 and Subpart LLL, 40 CFR 63.1340 to 63.1359 (National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry) apply to this installation. To be in compliance, this facility must operate in accordance with the most current version of 40 CFR 63 applicable to this source.

Monitoring - Continuous Emissions Monitoring

24. Compliance with the NO_x emission limitation in Condition 9 will be through use of a continuous emissions monitoring system. The owner/operator shall install, calibrate, maintain, and continuously operate a continuous emissions monitoring system on the kiln main stack. The owner/operator shall record the output of the system, for measuring the NO_x emissions. The monitoring system shall comply with all applicable sections of R307-170, UAC; 40 CFR 51, Appendix P; and 40 CFR 60, Appendix B. Except for system breakdown, repairs, calibration checks, and zero and span adjustments required under paragraph (d) 40 CFR 60.13, the owner/operator of an affected source shall continuously operate all required continuous monitoring devices and shall meet minimum frequency of operation requirements as outlined in 40 CFR 60.13 and Section UAC R307-170.

Records & Miscellaneous

25. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this Approval Order including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance that may affect air emissions performed on equipment authorized by this AO shall be recorded, and the records shall be maintained for a period of two years.
26. The owner/operator shall comply with UAC, R307-150 Series. Inventories, Testing and Monitoring. To be in compliance, this facility must operate in accordance with the most current version of the UAC, R307-150 series.
27. The owner/operator shall comply with R307-107, UAC, General Requirements: Unavoidable Breakdown. To be in compliance, this facility must operate in accordance with the most current version of the UAC, R307-107.

The Executive Secretary shall be notified in writing if the company is sold or changes its name. This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including UAC R307.

A copy of the rules, regulations and/or attachments addressed in this AO may be obtained by contacting the Division of Air Quality. The Utah Administrative Code R307 rules used by DAQ, the Notice of Intent (NOI) guide, and other air quality documents and forms may also be obtained on the Internet at the following web site: http://airquality.utah.gov/aq_home.htm

Annual emissions for this source (the entire plant) are currently calculated at the following values:

	<u>Pollutant</u>	<u>Tons/yr</u>
A.	PM ₁₀	290
B.	SO ₂	457
C.	NO _x	1,825
D.	CO.....	1,820
E.	VOC.....	151

The annual emission estimations above include point source, fugitive emissions, fugitive dust, and road dust and do not include tail pipe emissions. These emissions are for the purpose of determining the applicability of Prevention of Significant Deterioration, nonattainment area, maintenance area, and Title V source requirements of the UAC R307. They are not to be used for determining compliance.

The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. An invoice will follow upon issuance of the final Approval Order.

Sincerely,

Rusty Ruby, Manager
New Source Review Section